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LITHOGRAPHIC ABSTRACTS, FEBRUARY 1960

PHOTOGRAPHY, TONE AND COLOR CORRECTION

PHOTOTYPESETTING FOR SCIENCE. Anon. Printing Magazine, Vol. 82, No. 13, Dec. 1958, pp. 52-3, 2 pages. A report on the investigation by the American Chemical Society of the use of the Photon in the printing of chemical publications with their complex composition problems, Economies are said to be greater with more complex composition. Certain proposed research on the problems is outlined.

*ELECTROPHOTOGRAPHIC LAYERS. Can. Pat. 568,707. 6/27/56 - 1/6/59. W. Neugebauer, M. Tomanek, and G. Behmenberg to Kalle & Co. From Ansco Abstracts, Vol. 19, No. 2, Feb. 1959, Abs. 246. A solution of 2,5-bis-(p-aminophenyl)-1,3,4-triazole,

is applied to a conductive support to form a photoconductive insulating layer. Some of the Rs may be allyl, cycloallyl or acetyl, R' may be alkyl. 11 claims. Can. Patent Office Rec.

HALFTONE DOT FORMATION. S. Ahrenkilde. Graphic Arts Progress, Vol. 6, No. 1, Jan.-Feb. 1959, pp. 1-2, 2 pages. Halftone images can be produced photographically (glass screen, contact screen, Autoscreen film) or electronically to a photographic or mechanical result (Fairchild equipment cited). Enlarged views of dots formed by glass screen, contact screen, Autoscreen, and Scan-A-Graver show differences which are discussed.

TONE DENSITY AND PRINTED DOT AREA, PART I. H. O. Pattillo. Graph. Arts Progress, Vol. 6, No. 1, Jan.-Feb. 1959, pp. 1-2, 2 pages. A mathematical study of the objective relationship of original, intervening camera operations and press sheet. 3 references.

Part II. Ibid. Vol. 6, No. 2, Mar.-Apr. 1959, pp. 1-2, 2 pages. Continuation of the above. "In this study the objective has been to predict from given negative densities the final press sheet density. No attempt has been made to correlate the accuracy of the reproduction with the original densities."

*CHINA'S AUTOMATIC TYPESETTER. Anon. Austral. Print., Vol. 10, No. 1, Jan. 1959, pp. 47, 49, 2 pages. From Printing Abstr., Vol. 14, No. 5, May 1959, Abstr. 1685. An automatic type setting machine has been invented by two students of the Central China Teachers' College at Wuhan. It is capable of setting 20,000 Chinese characters per hour. It can remove type from the composing stick automatically, set type of various sizes, make alterations in setting and lift lines. It can also be adapted to set Japanese type.

A COMPARISON OF PHOTOGRAPHIC MASKING SYSTEMS. Karl L. Thaxton. Proceedings of the 9th Annual Conference of the Research and Engineering Council of the Graphic Arts Industry, New York City, May 18-20, 1959, pp. 96-101, 6 pages. The many masking systems are similar, yet have confusing, subtle differences. The need for masking is reviewed briefly. Masking procedures are classified as: pre-masking (contact printing method,and optical image masking); and post-masking (single-stage positive masking

and masked mask or two-stage masking). Several job examples are analyzed in relation to character of original, printing process, length of run, inks to be used, etc. and the reason for the specific choice of a masking method to fit the circumstances in each case are explained. Flow diagrams of two masking systems were shown (slides used at the talk are not reproduced in the Proceedings). The considerations governing choice of method are reviewed.

*NEW FILMSETTER. Anon. Litho-Print., Vol. 2, No. 2, Feb. 1959, p. 17, 1 page. From Printing Abstr., Vol. 14, No. 5, May 1959, Abstr. 1689. The Alphatype is a two-unit device with a Smith-Corona electric typewriter keyboard recording on magnetic tape which controls the separate photo-unit. The keyboard unit provides a typewritten copy with "line-kill" automatic quadding and leadering, kerning control, and range of 18-unit set width with a min. of four units. Each fount has a width card, eliminating rigidity in set width, and 6 to 18 pt founts have been developed to date. The unit weighs 35 lb. The photographic unit, which weighs 100 lb., is designed for installation with all dials and feeding apparatus in a lighted room with the back end in a darkroom. It photographs through a seven-inch disc of two founts of 84 characters each, at a speed of sixty words per min. Matter is reproduced in reverse order as the reel unwinds. Takes are of 12 in. length with 60-pica max. width. A strip-in method of correction is employed. It is reported that the price of both units will be about £5,250 with founts at £23 each. (Filmotype Co., Chicago)

*PHOTO-MECHANICAL SCREENING. Brit. Pat. 813,116; Pat. Abstr. J., Nos. 3655-6, 29 Apr. & 6 May 1959, p. 11. Klimsch & Co. From Printing Abstracts, Vol. 14, No. 7, July 1959, Abstr. 2576. A method of controlling the path of an apertured screen relative to light sensitive material in a photographic reproduction process.

*COLOUR REPRODUCTION. Time, Inc. Brit. Pat. 813,322; Pat. Abstr. J., Nos. 3653/3654, 15 & 22 Apr. 1959, p. 10. From Printing Abstracts, Vol. 14, No. 7, July 1959, Abstr. 2592. Colour reproduction by electro-optical scanning of the original. A signal for a so-called "black printer" is produced by a specified arrangement.

ELECTRONIC FLASHES OFFER ADVANTAGES. Anon. Export Polygraph, No. 19, Apr. 1959, p. 15 (in English). From Printing Abstracts, Vol. 14, No. 7, July 1959, Abstr. 2526. The principle, photochemical effect and advantages of electronic flash equipment are briefly discussed.

*PHOTOGRAPHIC RELIEFS. T. J. Moran Sons Inc. Brit. Pat. 814,299; Pat. Abstr. J., Nos. 3659-60, 27 May & 3 June 1959, p. 14. From Printing Abstracts, Vol. 14, No. 8, Aug. 1959, Abstr. 2952. Photographic reliefs, for printing, etc., are made by a process employing a thermo-plastic, gas permeable intermediary transfer film incorporating material liberating gas when exposed to radiation.

*SUBTRACTIVE FOUR-COLOUR FILM. E. Gretener. Brit. Pat. 814,347; Pat. Abstr. J., Nos. 3659-60, 27 May & 3 June 1959, p. 14. From Printing Abstracts, Vol. 14, No. 8, Aug. 1959, Abstr. 2918. Subtractive four-colour film is produced by electro-optical scanning of a coloured original to obtain three colour component signals which are converted into a neutral-grey and three colour remainder signals, a specified percentage of one of which is added to another, and photographically recording the four signals.

*TWO-STAGE MASKING SIMPLIFIED. R. E. Maurer. Litho-Printer, Vol. 2, No 6, June 1959, pp. 35, 37, 2 pages. From Printing Abstracts, Vol. 14, No. 8, Aug. 1959, Abstr. 2921. A new method which has been used experimentally takes advantage of the

Herschel-effect property of the Kodak Autopositive Plate, and eliminates the need for pre-masks. In this technique, the final colour-correcting masks may be made on this material by a double exposure directly from the separation negatives. For example, a latent image may be formed with white light modulated by the green-filter separation negative. Part of this image may then be erased by a red-light exposure made through the blue-filter separation. After processing, a plate so exposed will be a colour correcting mask for the blue-filter separation negative.

*A SIMPLE GUIDE TO COLOR SEPARATION. John M. Lupo, Jr. Canadian Printer and Publisher, Vol. 68, No. 9, Sept. 1959, pp. 66-9, 4 pages. Author first briefly explains the nature of light and color, and the difference between additive and subtractive color processes. Color separation is explained using for analogy the hypothetical peeling of the three layers of a color transparency, going from this to separation by means of filters. Direct and indirect halftone separations, and the relationship between density and dot size are explained, also how color contamination due to the imperfection of the inks leads to the need for either hand correction by dot etching or photographic correction by masking. 10 diagrams and tables.

COLOUR WORK (12). Frank H. Smith. Lithographer and Offset Printer, Vol. 55, No. 9, Sept. 1959, pp. 36, 38, 40, 3 pages. Kodak's 'Double Overlay' masking color correction is explained. Advantages are listed as: 1. Operation starts with an ordinary continuous tone set of color separation negatives, hence original can be reflection or transparency copy. 2. Masks are practically transparent except where needed for correction purposes. 3. While a densitometer is desirable, it is possible to do without it.

COLOUR WORK (13), Frank H. Smith. Lithographer and Offset Printer, Vol. 55, No. 10, Oct. 1959, pp. 27-9, 3 pages. Continuation of a story on making litho halftone positives in a camera with a magenta halftone screen (a Kodak method). The process has been refined and simplified. The use of the Kodak graphic arts computer is mentioned. 2 illustrations.

SOME NEW ASPECTS OF COLOR PERCEPTION. M. M. Woolfson. IBM Journal of Research and Development, Vol. 3, No. 4, Oct. 1959, pp. 312-25, 14 pages. Author's Abstract. A mathematical analysis is made of Land's recent experiments which showed that fully colored pictures can be produced by a two-color projection system. Although Land's results apparently had been at variance with the classical theories of color perception, it has now been found possible to explain the experiments within the framework of those theories and in conjunction with well known phenomena in the field of experimental psychology. The results are interpreted in terms of a mechanism of color transformation. 11 figures and 12 references.

PHOTOGRAPHIC EFFECTS WHEN USING ELECTRONIC FLASHES FOR CONTINUOUS TONE COLOR SEPARATIONS. R. von. Wartburg. Der Polygraph, 20-1959, 20 Oct. 1959, pp. R31-R32, 2 pages. (In German) 5 tables, 1 graph.

PLANOGRAPHIC PRINTING PROCESSES

ELECTRICON, PHOTOPLAX AND GEVACOPY SYSTEMS. Herbert P. Paschel. Modern Lithography, Vol. 27, No. 11, Nov. 1959, pp. 69-70, 2 pages. Author gives brief descriptions of these three new processes for preparing plates for lithographic presses in the duplicator size range. The Electricon Camera (Robertson Photo-Mechanix Inc.) operates on an electrostatic process related to xerography. The machine is a combination of a camera with optical reversal and the mechanical devices for performing the necessary processing operations automatically. The Photoplax Camera (A. B. Dick Co.) produces an aluminum plate by diffusion-transfer-

reversal. The equipment combines camera and automated processing unit. The Gevacopy Process (Gevaert Photo-Production, N. V., Belgium) also operates by diffusion-transfer-reversal but with negative material of camera speed, permitting use in camera or enlarger to produce plates enlarged or reduced, as well as same size. Runs of 10,000 are mentioned.

CHARACTERISTICS AND MAKING OF EGG ALBUMIN. IN OFFSET-LITHO CHEMISTRY QUESTIONS. Henry A. Beechem. Graphic Arts Monthly, Vol. 31, No. 11, Nov. 1959, pp. 134, 136, 138, 3 pages. Egg albumin is a protein, a complex substance. The circumstances governing the coagulation of albumin are described briefly, and the process of its preparation outlined. The methods used to remove the sugar which is normally in an albumin, but must be removed for photographic grades are by means of bacteria, or enzymes. Straining the redissolved albumin through several thicknesses of cheesecloth to remove residual insolubles is suggested.

EASTMAN KODAK REVEALS "EKTALITH" DIRECT TRANSFER PHOTOGRAPHIC PROCESS. Anon. Reproduction Review, Vol. 9, No. 11, Nov. 1959, p. 40, 1 page. Processing is in three steps: 1. Camera (16 sec. exposure); 2. Developer (20 seconds); 3. Transfer, followed by a fixing operation. The method is versatile, can be used with a microfilm enlarger, can reproduce fine line work, solids, some halftones. Plates can be corrected by erasing. 1 illustration.

INNOVATIONS CUT OFFSET PLATEMAKING TIME TO NEAR THE MINUTE MARK. Herbert P. Paschel. Photo Methods for Industry, Vol. 2, No. 11, Nov. 1959, pp. 60-1, 2 pages. Several new items of equipment for quick, automatic production of offset plates of a duplicator size are discussed. The A. B. Dick Co. Photoplax is a fully automatic unit operating on the diffusion transfer reversal process. Gevaert has a somewhat less automatic processer for use with the user's own camera, also dependent on the diffusion transfer reversal process. The Kodak Ektalith process is mentioned without details. The Robertson Electricon operates on an electrostatic principle. 3 illustrations.

*RELIEF IMAGE PROCESS USING IRON SALTS. J. L. Sorkin to Horizons, Inc. Can. Pat. 582,571. 3/27/56-9/1/59. Can. Pat. Office Record. From Ansco Abstracts, Vol. 19, No. 10, Oct. 1959, Abstr. 1243. An ultraviolet-sensitive coating consists of a water-soluble polyvinyl or other resin, a water-soluble of polycarboxylic acid and ferric ammonium citrate, oxalate or tartrate. After exposure through a transparency hydrogen peroxide insolubilizes the areas struck by the ultraviolet radiation, and washing produces a relief image. The relief can be hardened after washing. 3 process claims.

*GRAINING OF ZINC OFFSET PLATES. Food Machinery and Chemical Corp. U. S. Pat. 2,860,039; Chem. Abstr., Vol. 53, No. 4, 25 Feb. 1959, col. 2908. From Printing Abstr., Vol. 14, No. 5, May 1959, Abstr. 1792. Hydrogen peroxide mineral acid graining of cold-rolled zinc-alloy plates is described. Degreased engravers' zinc is grained in 2 min. in 0.7% sulphuric acid -- 8.8% hydrogen peroxide or with 1.5% sulphuric acid -- 7% hydrogen peroxide in 0.5 min. or with 0.75% sulphuric acid - 0.8% hydrogen peroxide for 1 min. Lithographic zinc is treated for 12 min. at room temperature with 1.3% sulphuric acid -- 7% hydrogen peroxide; or for 10 min. with 4.5% phosphoric acid -- 1.2% hydrogen peroxide.

*LITHOGRAPHIC PRINTING PLATE. A. B. Dick Co. Brit. Pat., 812,508; Pat. Abstr. J., Nos. 3655-6, 29 Apr. & 6 May 1959, p. 16. From Printing Abstracts, Vol. 14, No. 7, July 1959, Abstr. 2556. Lithographic printing plate comprises a base sheet with a continuous water-insoluble surface coating comprising the reaction product of a mixture of an inert filler, polyacrylic acid and a compound of a metal which forms a water-insoluble polyacrylate and a water-soluble, water-stable complex

double salt with the polyacrylate in the presence of sufficient ammonia, in proportions of 1 wt pt platinum metal compound to 2-20 wt pts filler and 1 wt pt polyacrylic acid to 2-10 wt pts filler metal compound.

PRINTING DOWN WITH POINT LIGHT ARC LAMPS. Anton Stigler. Der Polygraph, 20, 1959, 20 Oct. 1959, pp. R29-R30, 2 pages (in German). 3 illustrations.

SMALL OFFSET PLATES OF TODAY. Gerhard Nowitzky. Der Polygraph, 20-1959, 20 Oct. 1959, pp. 986-7, 2 pages (in German).

3M REVEALS TWO NEW PLATES. Anon. National Lithographer, Vol. 66, No. 11, Nov. 1959, pp. 84, 86, 2 pages. The two plates are: Type L, a two-sided aluminum surfaced plate for the small plate market; and Type S, a smooth aluminum negative acting, water resistant, highly durable plate with a factory applied printing surface requiring no rub-up with lacquer. Processing is described. 1 illustration.

MINUTE PLATES. Anon. National Lithographer, Vol. 66, No. 11, Nov. 1959, p. 78, 1 page. A brief announcement of a lithographic platemaking system by Geveart Company of America, Inc. The plate itself is grained aluminum, with unlimited shelf life. The printing image is transferred by contact from an exposed and developed negative. Processing is quick and simple. Plates up to 10 x 16 in. are now available with larger sizes to be announced. Runs of from 10,000 to 40,000 are reported. 4 illustrations show processing steps.

PAPER AND INK

PLASTIC PRINTING PAPERS REQUIRE CARE IN PRESSROOM. Anonymous. Inland and American Printer and Lithographer, Vol. 142, No. 3, Dec. 1958, pp. 62-3, 2 pages. Plastic coated and impregnated printing papers have advantages in durability and soil resistance in handling; they also resist water and can be cleaned. Problems encountered and methods of overcoming them in printing were studied by interviewing paper and ink makers, and letterpress and offset printers using the paper. Register and ink drying problems were encountered. Slower press speeds, fast drying inks planned especially for the paper, increased spray, careful press packing, careful jogging for rerun, and small lifts in the delivery are some of the suggestions offered.

WHEN ORDERING INKS. Anon. American Pressman, Vol. 69, No. 3, Mar. 1959, pp. 17, 21, 24, 3 pages. (Part of a chapter in "Printing Ink Handbook.") Data required by an ink supplier for ink formulation include: 1. Color or colors to be reproduced. 2. Process and type of press to be used. 3. Surface to be printed. 4. Processing and/or converting requirements. 5. End use requirements. 6. Cost requirements. These are discussed at some length.

CATIONIC CHEMICALS IN PRINTING INKS. R. J. de Vries. Paint Manuf., Vol. 29, No. 2, Feb. 1959, p. 59, 1 page. From Printing Abstracts, Vol. 14, No. 4, April 1959, Abs. 1254. Ease of dispersion even of the more difficult pigments is claimed when cationic or amphoteric surface active agents are used either during manufacture of the pigments or incorporation of the colours into inks. The dioleate salt of steryl n-propylenediamine (Duomeen TDO) is the most suitable agent for dispersion. The water soluble coco amine acetate (Armac C) is used in 'softening' pigments during production. Armeen Z (N Coco aminobutyric acid) is one of the amphoteric surface active chemicals which is used in 'softening' Prussian Blue.

SURVEY OF PROOF PRESS TEST METHODS FOR LETTERPRESS PRINTABILITY. Willard I. Stinger, Frederick C. Oppen, and Kenneth L. Stracham. TAPPI, Vol. 42, No. 4, Apr. 1959, pp. 138A-144A, 7 pages. Authors' Abstract. This report summarizes the current status of paper and paperboard printability tests in the United States. It is based

upon an analysis of replies to a questionnaire circulated in August 1956. The first section comprises a breakdown of replies according to types of industry, and a discussion of the differing needs and objectives of the several types. Then follows a discussion of the physical variables involved in proof press operation, and of the ways in which they have been measured and controlled. The last section is a classification of the actual test procedures according to the way in which they make use of relevant printing variables. 7 references.

PRINTING SURFACE OF UNCOATED OFFSET PAPER. L. Radke. TAPPI, Vol. 42, No. 4, Apr. 1959, p. 166A, 1 page. A discussion of how demands for greater surface bonding strength have increased with time, also of graininess and acuteness in the offset printed image.

TESTING THE PRINTABILITY OF PULPS. J. H. Baxter. TAPPI, Vol. 42, No. 4, Apr. 1959, pp. 162A-163A, 2 pages. A brief description of a test using hand sheets made from the pulps in question and supercalendered. An opacimeter and a proof press are used. 1 reference.

PAPER FINISHING MACHINE. Anon. TAPPI, Vol. 42, No. 4, Apr. 1959, pp. 117A-118A, 2 pages. Brief story on a machine developed by the Dexter Co., Div. of Miehle-Goss-Dexter, Inc. in conjunction with the S. D. Warren Co. and Champion International Paper Co. This machine inspects a paper web for lumps or voids, sheets it to size, stacks good and defective sheets in separate piles. Rolls may be 32 to 82 in. in width, up to 42 in. in diameter and sheet lengths may be from 36 to 80 in. Inspection is by "feeling" the surface. Equipment and operation are described. 1 line diagram.

*THE INFLUENCE OF SOME PAPERMAKING VARIABLES ON FLUFFING. E. J. Pritchard. Brit. Pap. Bd. Mkrs' Ass. Proc. Tech. Soc., Vol. 39, Part 3, Dec. 1958, pp. 445-57; discussion 458-65, 21 pages. From Printing Abstr. Vol. 14, No. 5, May 1959, Abstr. 1680. Trial makings of paper made under strictly controlled conditions, followed by fluff estimations both on the fluff tester and by printing runs, have shown that the fluffing tendency of a paper can be decreased by: 1. Increasing the proportions of softwood pulp in the furnish. 2. Replacing the esparto by hardwood pulp. 3. Increasing the beating given to the stuff. 4. Surface sizing the paper. All these changes (apart from 4) also increase the dimensional instability and decrease the opacity of the paper. Thus, surface-sizing (in this work with starch or gelatin) appears the best method of decreasing fluffing without increasing other undesirable characteristics of the paper. No significant difference was found amongst various agents used for surface sizing.

*PRINTING SURFACES PRODUCED BY VARIOUS COATING METHODS. R. S. Haven. Papier-wereld, Vol. 13, No. 7, Feb. 1959, pp. 171-81 (in English). From Printing Abstracts, Vol. 14, No. 7, July 1959, Abstr. 2410. Photo-micrographs are reproduced of brush, air doctor, reverse roll, Warren cast, Champion cast, transfer roll, size press (letterpress and offset grades), Champion, trailing blade and flexiblade coated paper and paper air-doctor coated on the machine, alongside photo-micrographs of the uncoated base paper. In some cases the effect of calendering is also shown. Some reference is made to the processes used for producing these types of coated paper.

*THE PRINTOGRAPH, A DEVICE FOR CONTROLLING BODYING AGENTS AND PRINTING INKS. Anon. Adhäsion, Vol. 3, No. 2, Feb. 1959, pp. 97-8, 2 pages (in German). From Printing Abstracts, Vol. 14, No. 5, May 1959, Abstr. 1632. The Printograph, a device already known in flour physics, can be used for printing technology with only slight modifications. Both viscosity and stringiness (length) are indicated.

*WHAT COLOUR IS THAT PAPER? A. Warren. Print in Brit., Vol. 6, No. 11, Mar.1959,

pp. 670-1, 2 pages. From Printing Abstr., Vol. 14, No. 5, May 1959, Abstr. 1893. The reflectance spectrophotometer, paper factors to be considered, and suitable lighting conditions for colour matching are discussed.

*COLOUR MEASUREMENT OF FLUORESCENT PAPERS. J. M. Adams. Print. Tech., Reprint of A.P.T. Conf. held Mar. 1959. (Deb. 104). From Printing Abstr., Vol. 14, No. 5, May 1959, Abstr. 1664. The precautions to be taken when measuring the colours of fluorescent near-white papers are reviewed. A Sheen abridged spectrophotometer was fitted with a high pressure xenon arc lamp, so that spectrophotometric curves of papers, as they appeared under daylight, could be drawn. Curves of typical papers under tungsten filament lighting and daylight are compared.

INVESTIGATIONS OF TINTING AND SCUMMING IN OFFSET PRINTING ON COATED PAPERS. Alf. Arnamo. Grafiska Forsknings-laboratoriet, Meddelande Nr. 42, June 1959, pp. 48-59, 12 pages. Article in Swedish with abstract in English. In order to investigate the cause to the scumming or tinting which sometimes occurs in multicolour offset printing on machine-coated papers containing casein, a series of experiments has been carried out in a multilith press with the dampening and inking systems divided in the middle. It was clearly shown that the only ingredient of the paper which caused this defect was casein. It was obvious that scumming and not tinting occurred. Scumming or tinting did not occur when various surface active agents were added to the fountain solution but instead a depressive effect on the scumming was observed in most cases. CMC had substantially better anti-scumming effect than gum arabic. A special laboratory apparatus which can be described as a very simplified miniature offset press was constructed for the testing of papers, inks, plates and fountain solutions on their tendency to cause scumming or tinting. Six tables, 1 illustration, 3 references.

*THE PERMANENCE OF PAPER, PART 6. W. H. Langwell. Brit. Pap. Bd. Mkrs' Ass. Proc. Tech. Sect., Vol. 40, Part I, Feb. 1959, pp. 105-7. From Printing Abstracts, Vol. 14, No. 7, July 1959, Abstr. 2412. Recent work has emphasized the need for a simple test to be used by librarians and archivists for indicating the presence of dangerous amounts of sulphur dioxide in the atmosphere of rooms used for paper storage. A test using test papers made with the brownish-black higher oxide of cobalt (CO_2O_3) as the sulphur dioxide reagent is described.

*PRINTING SURFACES PRODUCED BY VARIOUS COATING METHODS. R. S. Haven. World's Pap. Tr. Rev., Vol. 151, No. 11, 12 Mar. 1959, pp. 925-6, 928, 930, 932, 937-8, 940, 8 pages. From Printing Abstr., Vol. 14, No. 5, May 1959, Abstr. 1650. The following methods of coating are discussed: brush coating, the air knife process, reverse roll coating, the Lusterkote and Kromekote processes, size press coating, the Massey (or Consolidated) process and the Champion, trailing knife and Flexiblade coaters. Reference is also made to convection dryers.

LITHOGRAPHY - GENERAL

THE OIL FILM ON TINPLATE. W. Richards. Tin Printer & Box Maker. Vol. 34, No. 406, Nov. 1958, p. 2, 1 page. The rust preventing films on stainless steel and tin plated steel are described and compared. It is shown that in the tin plating process, the residual film of palm oil is important in filling pores in the tin plate and preventing rust.

THE HOW AND WHY OF CARTON LITHOGRAPHY. CHAPTER 15 - MULTIMETAL PLATES. John Jachimiec. Boxboard Containers, Vol. 77, No. 804, Dec. 1958, pp. 58-60, 3 pages. The commonly used multimetal plates (Lithure, Lithengrave, Aller, and I P I Trimetal) are listed and described briefly. The two methods of preparation (negative and positive) are described and illustrated with line diagrams.

PROFITS IN SMALL OFFSET EQUIPMENT. John C. Jackson. Printing Monthly, Vol. 10, No. 10, Jan. 1959, pp. 4-5, 2 pages. Advantages of low initial cost, low plate cost, higher running speeds, and quicker get-away are reasons why the printer should investigate the small offset press.

OFFSET PRINTING TERMINOLOGY. PART 2. Anon. American Pressman, Vol. 69, No. 2, Feb. 1959, pp. 38-9, 41, 3 pages. Conclusion. Listing of terms decided upon as basic, representative and intelligible. Each is accompanied by a paragraph of definition. Terms in this installment run from: "Emulsification" to "Water Mechanism."

A.T.F. CHIEF 15. Anon. American Pressman, Vol. 69, No. 2, Feb. 1959, pp. 34-7, 4 pages. Operating instructions for this press, a small offset.

WORK SIMPLIFICATION. PART II. V. A. Fisher. American Pressman, Vol. 69, No. 2, Feb. 1959, pp. 22, 24, 2 pages. Work simplification is illustrated by: 1. Cutting paper with less effort by eliminating lifting from low levels. 2. Eleminating extra steps around a sink in a platemaking department. Employee cooperation as a result of explanation of purpose is stressed. Five important principles of motion economy are listed as: 1. Worker should be at ease. 2. Physical activities or motion should be productive. 3. Motion should be simple. 4. Motion should permit rhythm or smooth flow. 5. Avoid nervous strain.

THE COMING AGE OF WEB OFFSET PRINTING. Reginald F. Wardley. New England Printer and Lithographer, Vol. 22, No. 2, Mar. 1959, pp. 52-5, 4 pages. A broad general discussion involving some history, types of presses, paper, paper waste, print quality, plates, inks, blankets, and other points where web offset differs from sheet fed. Some advantages of web offset are cited as: 1. Equipment costs similar to larger sheet fed presses. 2. Plates and platemaking no different from sheet fed work. 3. Combined operations at the end of the press such as perforating, folding, punching, slitting, imprinting, etc. 4. Higher web speeds and lower plate costs mean savings. 5. Roll stock cheaper to buy and easier to store.

THE OFFSET STORY. OFFSET USERS HAPPY WITH THEIR CONVERSION BUT TELL OF PROBLEMS; 41 PUBLISHERS PRINT 151 NEWSPAPERS. Len. Furman. The Publishers' Auxiliary, 94th Year, No. 20, May 16, 1959, pp. 1, 3, 2 pages. Article consists of quotations from a large number of the publishers who were printing newspapers by offset. Two, or perhaps more, are dailies, the rest weeklies or other. Some commonly appearing comments were: a bombardment of queries of various sorts, lowered costs, less time delay. While few specifically mentioned press equipment, it is apparent that nearly all use sheet fed presses due to relatively short runs.

***PRINTING MACHINES.** Harris Intertype Corp. Brit. Pat. 812,746; Pat. Abstr. J., No. 3655-3656, 29 Apr. & May 6, 1959, p. 11. From Printing Abstracts, Vol. 14, No. 7, July 1959, Abstr. 2457. Improvements in the method of Brit. Pat. 719,239, for applying dampening material in electrically-charged condition to lithographic plates, etc.

RECOGNIZING GEAR MARKS AND HOW TO OVERCOME THE FAULT. Hermann Kraatz. Der Polygraph, 15-1959, 5 Aug. 1959, pp. 663-4, 2 pages (in German).

***LOW-COST WEB OFFSET PRODUCTION.** Anon. Litho-Printer, Vol. 2, No. 6, June 1959, pp. 38-9, 47, 3 pages. From Printing Abstracts, Vol. 14, No. 8, Aug. 1959, Abstr. 2752. Details are given of the Universal RZO (also known as the Webmaster), which prints a web width of 24-1/2 in. with a max. cut-off length on the sheeter of 17-3/8 in. Printing speed is stated to be 8000 copies per hour. (Agents: Soag Machinery Ltd.)

*THROUGH THE PRESS. Anon. Litho-Printer, Vol. 2, No. 6, June 1959, pp. 5-6, 9-11, 5 pages. From Printing Abstracts, Vol. 14, No. 8, Aug. 1959, Abstr. 2751. Manufacturers of offset machines (George Mann, Roland, Harris, Nebiolo, Colormetal and R. Hoe and Crabtree) give the reasons why they have chosen their particular method of effecting sheet registration on multi-colour offset machines.

*PRINTING MACHINES. Addressograph-Multigraph Corp. Brit. Pat. 813,599; Pat. Abstr. J., Nos. 3657-8, 13 & 21 May 1959, p. 11. From Printing Abstracts, Vol. 14, No. 8, Aug. 1959, Abstr. 2729. A spirally-wound non-stitched liquid absorbent cover for a roller for moistening apparatus for lithographic machines.

NEWSPRINT COLOR BY WEB OFFSET. William E. Meyer, Jr. Graphic Arts Progress, Vol. 6, No. 5, Sept.-Oct. 1959, pp. 1-2, 2 pages. Story on the Rochester Institute of Technology laboratory web offset press and its use in the development of techniques. Two recent runs of color on newsprint are mentioned.

NOTES ON NEW DAMPENING SYSTEMS AND THE EMULSIFYING OF LITHO INKS. H. J. S. Der Polygraph, 20-1959, 20 Oct. 1959, pp. 025-027, 3 pages (in German). (Includes Mullen and Dahlgren systems) 4 illustrations.

GRAPHIC ARTS - GENERAL

*XEROGRAPHIC SYSTEM. Gen. Dynamics Corp. Brit. Pat. 807,079. 3/19/56 - 1/7/59. During development of selenium plates with developer powder by direct contact damage to the surface of the plate may result, and use of an intermediate sheet as in U. S. 2,693,416 results in loss of contrast or detail. The invention employs the usual combination of photoconductive selenium layer, about 25μ thick, on an electrically conducting support. After the electrostatic image has been produced on it, the plate is placed in contact with aluminum foil, .002 or.00035" thick covered with .00025" insulating coating of a polyterephthalate ester. When electrical contact is made between the conductive supports of the photosensitive and the transfer element, part of the charge is transferred from the selenium to the polyester coating and can be developed there in the usual manner. If the air, whose dielectric strength varies with temperature and humidity, between sensitive and transfer elements was replaced by a layer of silicone oil of high dielectric strength, not exceeding 100μ in thickness, applied to either element, the resolution was raised from 10-20 to 30-60 lines/mm. 2 process claims. From Ansco Abstracts, Vol. 19, No. 2, Feb. 1959, Abs. 249.

*ELECTROSTATIC PRINTING MATERIAL. R. A. Fotland and E. F. Meyer to Gen. Dynamics Corp. Can. Pat. 573,773, 3/19/56-4/7/59. From Ansco Abstracts, Vol. 19, No. 5, May 1959, Abs. No. 600. The material consists of 2 combinations: a photoconducting layer on an electrically conducting support and a second electrically conducting layer with an electrically insulating material having a high dielectric strength. The 2 combinations form at first an assembly with the 2 connected electrically conductive outer elements. A liquid of high dielectric strength may be interposed between photoconductor and insulating material. It reduces the loss of resolution in the transfer of part of the charge pattern from the photoconductor to the insulating layer. After separation a visible image can be developed on the insulating surface. 7 claims. Can. Patent Office Record.

*REDESIGNED AUTOTRON WILL OCCUPY ONLY HALF OF PREVIOUS FLOOR SPACE. Anon. Print. World, Vol. 164, No. 9, 4 Mar. 1959, p. 261, 1 page. From Printing Abstr., Vol. 14, No. 5, May 1959, Abstr. 1722. The Autotron 58 has been completely redesigned and miniaturized components have been used. Using the principle of derivative control, the measuring circuits of the new Autotron compute exactly the instantaneous error, and also the future change of error. The speed at which a register error is occurring is taken into account and the computer is able to anticipate major errors before they actually occur. Consequently, the web is pulled into register much quicker. (J. F. Crosfield Ltd., 2 Elthorne Rd., London, N19.)

*A COLOUR MONITOR FOR SHEET FED MACHINES. G. S. Allen and K. B. Morris. Print. Tech., Reprint of A.P.T. Conf. held 23 Mar. 1959 (Dob.104). From Printing Abstr., Vol. 14, No. 5, May 1959, Abstr. 1719. The problem of monitoring and controlling ink film thickness on sheet-fed machines is outlined. The course of development is traced of equipments which have been designed to solve this problem. The resulting equipment and its application to sheet-fed presses is explained, and the results of field trials with this equipment are discussed.

*GUARDING OF PAPER CUTTING GUILLOTINES. Anon. Brit. Fed. Mast. Print. Memb. Circ., Vol. 58, No. 3, March 1959, pp. 103-4, 2 pages. From Printing Abstracts, Vol. 14, No. 5, May 1959, Abstr. 1875. Specifications are given for automatic sweep-away, automatic body push and interlocked guards. Recommendations are also made for maintenance and testing, backloading and starting devices. The disadvantages of photoelectric devices and the risks involved in repeat strokes with the automatic sweep-away guard are indicated.

STANDARDIZATION OF INKS FOR MULTICOLOUR LETTERPRESS PRINTING. Gösta E. Carlsson. Grafiska Forsknings-laboratoriet, Meddelande Nr.42, June 1959, pp. 24-30, 7 pages. Article in Swedish with abstract in English. The need of standardization of the hue of inks used in multicolour letterpress printing is stressed with special respect to the simultaneous printing of process blocks of different makes. Spectrophotometric curves if the inks for four colour printing manufactured in Sweden show very wide differences. The British and German standard inks are discussed and the German standard is considered to be best for Swedish conditions. Eight graphs.

CONVERTS 4 COLOR OFFSET TO LETTERPRESS, INCREASES PLATE VOLUME BY 30-40 PERCENT. Anon. Electrotypers and Stereotypers Magazine, Vol. 45, No. 7, July 1959, pp. 5-6, 2 pages. A story on how Empire Photo-Engraving Corp., New Brunswick, N. J. has increased its business 30-40% by developing process of converting offset to letterpress. Color corrected offset negatives are printed down onto zinc and etched by powderless method without further correction being required. The powderless method makes this possible because it does not decrease dot size in etching and color values are retained.

AUTOMATIC INK CONTROL IN ROTOGRAVURE PRINTING. J. L. Export Polygraph, No. 19, April 1959, p. 16 (in English). From Printing Abstracts, Vol. 14, No. 7, July 1959, Abstr. No. 2366. The electronic measurement and control of ink density are discussed, with special reference to the operation of the Idotron on a rotogravure machine.

*PRINTING PROCESS. W. Balmer. Brit. Pat. 813,112, Pat. Abstr. J., Nos. 3655-6, 29 Apr. & 6 May 1959, p. 11. From Printing Abstracts, Vol. 14, No. 7, July 1959, Abstr. 2545. Printing process in which vapour applied adjacent to printing screen inhibits drying of ink. Rapid drying ink can then be used, facilitating the subsequent stacking of prints.

*DYE SENSITIZATION OF PHOTOCONDUCTIVE MATERIALS. Radio Corp. of America. Brit. Pat. 811,165; Appln. 24 May 1955, U. S. 2 June 1954, publ. 2 Apr. 1959, H. M. Patent Office, London (CB). From Printing Abstracts, Vol. 14, No. 7, July 1959, Abstr. 2542. Photoconductive material, e.g., for electrostatic printing, comprising a mixture of finely divided zinc oxide and an insulating film-forming substance or vehicle, has its spectral sensitivity range extended by means of an organic dye which is capable of absorbing radiant energy and transferring it to the zinc oxide.

XEROGRAPHY AND ITS APPLICATIONS. W. A. Cook. Journal of Photographic Science, Vol. 7, No. 4, July-Aug. 1959, pp. 93-5, 3 pages. A brief illustrated description of the process for making copies, for making offset paper masters and for printing continuous strips from either materials or microfilms. Costs are discussed. 4 illustrations.

*PHOTOPOLYMERIC PRINTING PLATES. E. L. Martin to DuPont. U.S.P. 2,902,365, 96/35, 8/14/56-9/1/59. From Ansco Abstracts, Vol. 19, No. 9, Sept. 1959, Abstr. 1100. The photopolymerized printing plates of U.S. 2,760,863 & 2,791, 504 require organic solvents to clear the unexposed areas. By using in combination with the ethylenically unsaturated addition polymerizable monomer or polymer having a molecular weight between 100 and 1500 a substantial amount of a polyvinyl alcohol derivative containing lateral free carboxyl or sulfonic acid groups development with water or aqueous solutions becomes possible. The preparation of a polyvinyl acetate/acrylal/(sodio O-sulfo) benzal as example of such a compound is described. It is used with a polyethylene glycol bis-methacrylate ester, and with benzoin methyl ether as catalyst. A commercial polyvinyl hydrogen phthalate is another example. 17 process & product claims.

*PHOTOPOLYMERIZABLE CHELATE COMPOSITIONS. W. E. Mockel and L. Plambec, Jr., to DuPont. French Pat. 1,172,327. 2/13/56-2/9/59. From Ansco Abstr., Vol. 19, No. 9, Sept. 1959, Abstr. 1101. The 22-page patent discusses the use of compositions of at least 50% of a polychelate of a polyvalent metal containing vinyl or vinylidene groups with a polymerizable vinylidene compound and a ketaldonyl compound as initiator for addition polymerization under the influence of light, resulting in relief image formation when the unexposed polychelate is removed by a 1,3-dicarbonyl compound, which splits the chelate bond with formation of a monomeric chelate, or an acid. One of the examples describes the preparation of a tetraethylene-glycol-pentaerythritol-maleate-acetylacetate 1:1:2:2 which is used with polyethyleneglycol dimethacrylates as sources of vinylidene groups, aluminum tri-(ethylacetoacetate), and benzoin methyl ether as catalyst. Acetylacetone serves as developer.

*ETCHANT FOR CELLULOSE ACETATE. R. J. Whitbourne to Eastman Kodak Co. U.S.P. 2,891,849, 41/43, 11/30/56-6/23/59. From Ansco Abstracts, Vol. 19, No. 9, Sept. 1959, Abstr. 1135. A solvent mixture for etching cellulose acetate halftone printing plates, producing a superior dot structure, consists of one volume of dimethyl sulfoxide with 3-4 volumes of isopropyl alcohol. This nontoxic and nonexplosive mixture can be applied by swabbing the plate carrying a gelatin relief image with a nylon-velvet covered pad. 6 process & mixture claims.

LATEST DEVELOPMENTS IN LETTERPRESS PRINTING. Edward J. Triebe. Printing Monthly, (Detroit), Vol. 11, No. 7, Oct. 1959, pp. 5-6, 22, 3 pages. From a Talk before the International Assoc. of Printing House Craftsmen, Sept. 1959. Author first points out that more science and engineering are invading every phase of production. Developments are discussed as follows: Typesetting (higher speeds, better mats); Photocomposition; Engravings (improved color separation and masking, rapid etching, better proofing); Printing plates (plastic molds, harder metals, curve casting and many other developments); Paper (improved smoothness, strength, opacity, ink receptivity); Rollers (synthetic and raw rubber to fit specific applications; Inks (faster setting, scrub proof, etc.); Static control; Offset prevention; Dust control; Presses (multi-color rotaries, internal and tension lock-up, roll feed and roll feed sheeters, etc.). Observations on the future include need for increased market and technical research.

IMPROVED INKS FOR LETTERPRESS FOUR-COLOUR PRINTING, B. S. 3020: 1959. Anon. Process, Vol. 66, No. 788, Sept. 1959, pp. 273-7, 5 pages, with example in color on front cover comparing B. S. 1480 and B. S. 3020. Some history is given on ink standards, including the introduction of B. S. 1480 in 1949. The differences between that and the new standard are explained and discussed. The new standard inks are for four colour printing only. Colour strength has been increased, leading to higher priced inks than 1480, but the price per print is expected to be no higher. Standardization covers colour (hue), strength and light-fastness.

THE PACKAGING INDUSTRY AND THE NEW FOOD ADDITIVE AMENDMENT. Kieth W. Max. TAPPI, Vol. 42, No. 11, Nov. 1959, pp. 160A-161A, 2 pages. Paper presented at the

meeting of the Metropolitan District of the Empire State Section held in New York, N. Y. Sept. 14, 1959. Author presents the relationship of the packaging industry to the provisions of the new food additives amendment. A survey has been made of the packaging materials involved revealing that about 360 chemicals are generally used of which about 80 appear to be safe and another 150 probably acceptable. The testing involved in extraction and other studies is discussed briefly.

THE APPLICATION OF THE FOOD ADDITIVES AMENDMENT TO PAPER AND PACKAGING MATERIALS. C. A. Herrmann. TAPPI, Vol. 42, No. 11, Nov. 1959, pp. 158A-168A, 3 pages. Paper presented at the meeting of the Metropolitan District of the Empire State Section held in New York, N. Y., Sept. 14, 1959. The background of the amendment is given. Three classes of exempted articles are listed. Five requirements of a petition for approval are listed and the considerations governing permits to use additives are discussed.

OFFSET SPRAY DUST PROBLEMS AND ELIMINATION. Anon. American Pressman, Vol. 69, No. 10, Oct. 1959, pp. 36-8, 3 pages. A report on a study on the removal of offset spray dust for Kingsport Press, book printers operating 38 presses. The problems involved are listed. A schematic drawing shows something of the installation. Facilities for different types and sizes of presses are listed. The installation has proven its economic value. 2 illustrations.

CONVERTING OFFSET TO LETTERPRESS? Anon. American Pressman, Vol. 69, No. 10, Oct. 1959, p. 31, 1 page. Some misunderstandings on this subject are cleared away. The fact is pointed out that offset separation negatives are satisfactory for letterpress plates when powderless etching machines and procedures are used. Some implications of this fact are cited as: combination offset-letterpress houses can use the same separation negatives for either process; more photoengravers will have to learn to work this combination; and greater use of powderless etching will result.